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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/638,373	08/15/2000	Yin Pan	10360-045001	1548

34845 7590 08/03/2006

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EXAMINER	
SEFCHECK, GREGORY B	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/638,373	PAN ET AL.	
	Examiner	Art Unit	
	Gregory B. Sefcheck	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,9-12,14-20,23-26,28-34,37-40 and 42-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9-12,14-20,23-26,28-34,37-40 and 42-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 5/23/2006 is acknowledged.
- Claims 1, 15, 29, and 43 have been amended.
- Claims 44-47 have been added.
- Claims 7, 8, 13, 21, 22, 27, 35, 36, and 41 have been previously cancelled.
- Claims 1-6, 9-12, 14-20, 23-26, 28-34, 37-40, and 42-47 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6, 9, 11, 12, 15-20, 23, 25, 26, 29-34, 37, 39, 40, and 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al. (US005687167A), hereafter Bertin, in view of Chawla et al. (US006771661B1), hereafter Chawla.

- In regards to Claims 1, 2, 11, 15-16, 25, 29-30, 39, and 43,

Bertin discloses a method of allocating resources on a network. As illustrated in Fig. 2, Bertin shows the method implemented throughout the network utilizing computer software (claim 15 – computer program) and computer hardware (claim 43 - apparatus)

comprising a memory and processor for storing and executing the resource allocation instructions (Col. 4, lines 45-58; claim 29 - apparatus comprising memory and processor for storing and executing instructions).

Referring to Fig. 1, Bertin shows a user specifying a connection request including the destination address for a reservation of network resources, such as bandwidth (Col. 12, lines 64-66; claims 1,15,29,43 – receiving a request for reservation of network resources including destination address; claims 11,25,39 – resources comprise bandwidth of network devices).

Bertin shows that a connection is setup/activated immediately upon receiving non-zero bandwidth replies from each node/link along the intended route (Col. 13, lines 48-55). Furthermore, Bertin shows that control messages are exchanged between routing points indicating when new links are activated (Col. 6, lines 5-23; claim 1,15,29,43 – receiving data indicating an activation time for resources).

Bandwidth resources on the transit nodes (network devices) are then allocated on a path to the end node (destination address) to accommodate the reservation if it is determined that the network devices have sufficient resources to accommodate the reservation (Fig. 1, steps 102-104; Col. 13, lines 1-12; claims 1,15,29,43 – allocating resources on network devices to accommodate the reservation if sufficient resources are available; claims 2,16,30 – determining if network devices on path to destination have sufficient resources to accommodate the reservation).

Referring to Fig. 1, Bertin further shows connection level control information (filter) applied (installed) at the transit and end nodes (devices) of the network,

specifiying the bandwidth to be reserved (action) for the destination address of the connection request (matching criteria; IP address). This information allows the bandwidth of the network device to be reserved and the resource allocation policy of the connection to be enforced for packets transmitted through these nodes along the path to the destination (Col. 13, lines 1-17; Fig. 1, steps 103-105; claims 1,15,29,43 – communicating over the network with at least one policy enforcement point on the path and at an edge of the network; claim 1,15,29,43 - allocating comprises installing filters on the network devices to allocate resources; claim 1,15,29,43 – filters having matching criteria including IP address which allows policy enforcement point to identify and perform action on a packet).

Bertin further discloses resource allocation comprising communicating with the transit nodes and end nodes (network devices) of the network (Fig. 1, steps 109-111; Col. 13, lines 5-15; claim 1,15,29,43 - allocating comprises communicating with the network devices).

Bertin further shows applying/installing the control information/filters at the time the connection is set up/activated based on the traffic characteristics (Col. 2, lines 22-30; claim 1,15,29,43 - installing filters at the time of resource activation).

Bertin does not explicitly disclose the receiving data that indicates an Internet Protocol (IP) traffic filter to be installed at a future activation time for activating requested network resources.

Chawla discloses an apparatus and method for providing event-based data communications device configuration. Chawla shows that resource allocations can be

made by bandwidth reservations provided to a communications device which can specify a session of data communication and future bandwidth modification information, such as a time or event, such that resources are allocated to the communications device at a future activation time (Abstract; claim 1,15,29,43 - receiving data that indicates an Internet Protocol (IP) traffic filter to be installed at a future activation time for activating requested network resources).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method, apparatus and computer program of Bertin by enabling resource allocation to devices in a network at a future activation time, as shown by Chawla. This would enable resource allocations for network devices to be automatically and dynamically modified without a need to break active data communications sessions (Chawla, Abstract).

- In regards to Claim 3, 17, and 31,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses constructing and storing a topology database (topology map) at nodes of the network. Determining and allocating of network resources is performed by referencing the topology database (Col. 8, lines 50-51; Col. 13, lines 1-9; claim 3,17,31 - constructing and storing a topology map; referencing the map when determining and allocating network resources).

- In regards to Claims 4, 18, and 32,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin shows the topology database is updated (constructed) periodically to account for changes that have occurred in the network topology (Fig. 1, step 105; Col. 13, lines 13-17; Col. 15, lines 39-40; claim 4,18,32 - constructing topology map periodically to account for changes in the topology of the network).

- In regards to Claims 5, 19, and 33,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses determining if a reservation is permitted based on the Bandwidth Reservation Replies (identity) from the transit nodes and end node (transferor). Allocation of resources is then performed if it is determined that the reservation is permitted (Fig. 1, step 104; Col. 13, lines 10-12; claim 5,19,33 - determine if reservation is permitted based on identity of transferor; allocate resources if reservation is permitted).

- In regards to Claims 6, 20, and 34,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further shows that the allocating of resources is not performed if it is determined that the reservation is not permitted (Col. 13, lines 10-12, 60-62; claim 6,20,34 - allocating not performed if it is determined that the reservation is not permitted).

- In regards to Claims 9, 23, and 37,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further shows allocating resources for different priority groups (classes) of traffic (Abstract; Col. 3, lines 23-25; Col. 15, lines 5-7; claim 9,23,37 - allocating resources for different classes of service on the network).

- In regards to Claims 12, 26, and 40,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses allocating bandwidth based on determining if a link (destination address) has insufficient bandwidth available (predetermined amount of bandwidth; Fig. 1, steps 103-104; Col. 3, lines 57-58; claim 12,26,40 - determining if destination address has greater than a predetermined amount of bandwidth; allocating based on determining)

- In regards to Claims 44-46,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin discloses that each established connection is assigned a priority such that newly requested connections can preempt (buffer and/or drop) packets transmitted over established connections if the new connection/packets are of a higher priority. Each packet is routed according to the information in its header, including the relative priority connection information for communicating the packet to its destination (Col. 1, lines 55-66; Col. 5-6, lines 65-33; Col. 9-10, lines 50-35; Col. 12, lines 21-25; claim 44 – action comprises marking a packet header to assign predetermined priority to the packet; claim 45 – action comprises shaping the packet; claim 46 – action comprises dropping the packet).

3. Claims 10, 14, 24, 28, 38, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin in view of Chawla as applied to claims 9, 11-13, 15-23, 25-27, 29-37, 39-41, and 43 above, and further in view of Ellesson et al. (US006459682B1), hereafter Ellesson.

- In regards to Claims 10, 24, and 38,

Bertin in view of Chawla discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses using information in the packet header to be transmitted over the network.

Bertin does not expressly show the data class of service defined in the packets.

Ellesson discloses a method, apparatus and computer program implementation of controlling packet traffic (resource allocation) in an IP network. Ellesson discloses encoding the traffic class into the headers of the data packets to be transmitted to determine their network priority (Abstract; claim 10,24,38 - classes of service are defined in data packets to be transmitted over the network).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the allocation method, apparatus and program of Bertin by explicitly defining the service class of data traffic within the data packet to be transmitted over the network, as taught by Ellesson. This modification would provide class of service information for incoming data to each transit node without requiring the additional bandwidth of a separate information/signaling channel between each node along the path to the destination address.

- In regards to Claims 14, 28, and 42,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above. Bertin further shows that the headers of the incoming data packets include Control Fields that includes an interpretation of the protocol used to communicate the routing information to each of the transit nodes along the path to the destination address.

Bertin does not expressly show this communication using the COPS/RSVP protocol.

Ellesson discloses a method, apparatus and computer program implementation of controlling packet traffic in an IP network. Ellesson shows an RSVP protocol-based reservation system for communicating bandwidth allocations to network devices (Col. 3, lines 3-7; claim 14,28,42 - communicating takes place using COPS/RSVP protocol).

It would have been an obvious design choice to implement the allocation method, apparatus and program of Bertin by communicating with the network devices using the COPS/RSVP protocol, as taught by Ellesson, to effectively communicate the resources necessary for accommodating a reservation to each transit node and the end node along the path to the destination address.

4. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin in view of Chawla as applied to claim 1 above, and further in view of Schneider et al. (US006785728B1), hereafter Schneider.

- In regards to Claim 47,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin does not explicitly show modifying the matching criteria of the filter by replacing the address with a range of addresses.

Schneider discloses a scalable access filter to control access by users in a network (Abstract). Schneider shows a single access filter may provide access to multiple users requesting access to a resource by allowing access to all devices within a workgroup, defined by a range of IP addresses, to which the multiple users belong (Figs. 2, 7-9, and 13; Col. 5, lines 15-60; Col. 23, lines 33-52; Col. 29, lines 12-53; claim 47 - modifying the matching criteria of the filter by replacing the address with a range of addresses).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and apparatus of Bertin by enabling network resource access to multiple users having addresses within a range of addresses through a single filter, as shown by Schneider. This modification would reduce the amount of filters required in the network and would allow aggregating user access control into manageable workgroups, specified by an address range, in order to simplify the management, authentication and protection of the network when accessible to a large number of users.

Response to Arguments

5. Applicant's arguments filed 5/23/2006 have been fully considered but they are not persuasive.

- In the Remarks on pgs. 11-12 of the Amendment, the Applicant contends that Bertin does not disclose a system or method for allocating resources on a

network through the installation of an internet protocol traffic filter as in the present claims. Applicant contends that Bertin's disclosure of connection requests to reserve bandwidth at nodes along a path to a destination does not reasonably read on the claimed traffic filter of Applicant's disclosure.

- The Examiner respectfully disagrees. Through Applicant's disclosure, it is shown that resources, specifically bandwidth, are allocated in a network by the installation of filters on network devices. Applicant's disclosure further describes that these "filters" are installed based upon a request, a determination of whether a respective network device has the bandwidth necessary to accommodate the request, where the request includes source and/or destination addresses, etc. As shown in the rejection above, Fig. 1 of Bertin reads on the Applicant's claimed "filters" by disclosing "connection reservations" that are applied (installed) to each node (policy enforcement point) along the path of the network (Internet), in response to "connection requests". While Bertin does not explicitly disclose this process as "installing filters" on the network devices, the actions that constitute filter installation as defined by Applicant's disclosure are met. The meaning of words used in a claim is not construed in a lexicographic vacuum but in the context of the specification and drawings. See MPEP 2111. As such, the definition provided by Applicant for the term "filter" is met by the disclosure of Bertin as shown in the rejection above.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GBS GBS
7-26-2006

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER